

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Patent Application of

Christopher Freitas

Application No.: 10/782,634

Filing Date: December 18, 2004

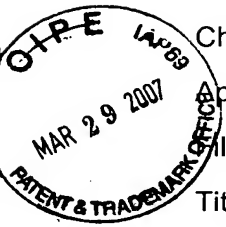
Title: N-PHASE INTERFACE TRACKING
METHOD UTILIZING UNIQUE
ENUMERATION OF MICROGRID
CELLS

MAIL STOP AMENDMENT

Group Art Unit: 2128

Examiner: David Silver

Confirmation No.: 5168



SECOND
INFORMATION DISCLOSURE STATEMENT
TRANSMITTAL LETTER

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Sir:

Enclosed is a Second Information Disclosure Statement (IDS) and accompanying form PTO-1449 for the above-identified patent application.

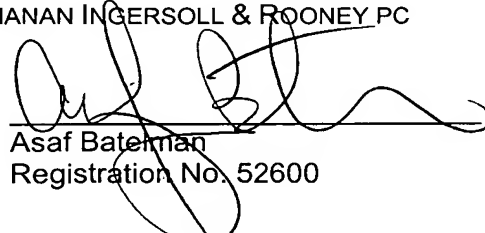
- ☐ No additional fee for submission of an IDS is required.
- ☒ The fee of \$ 180 as set forth in 37 C.F.R. § 1.17(p) is also enclosed.
- ☐ A statement under 37 C.F.R. § 1.97(e) is also enclosed.
- ☐ A statement under 37 C.F.R. § 1.97(e), and the fee of \$ 180 as set forth in 37 C.F.R. § 1.17(p) are also enclosed.
- ☐ Charge _____ to Deposit Account No. 02-4800 for the fee due.
- ☐ A check in the amount of _____ is enclosed for the fee due.
- ☒ Charge \$ 180 to credit card for the fee due. Form PTO-2038 is attached.
- ☒ The Director is hereby authorized to charge any appropriate fees under 37 C.F.R. §§ 1.16, 1.17 and 1.21 that may be required by this paper, and to credit any overpayment, to Deposit Account No. 02-4800. This paper is submitted in duplicate.

Respectfully submitted,

BUCHANAN INGERSOLL & ROONEY PC

Date March 29, 2007

By:


Asaf Bateman
Registration No. 52600

P.O. Box 1404
Alexandria, VA 22313-1404
703 836 6620

IFW
\$



IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Patent Application of)

Christopher Freitas)

Application No.: 10/782,634)

Filed: December 18, 2004)

For: N-PHASE INTERFACE TRACKING)
METHOD UTILIZING UNIQUE)
ENUMERATION OF MICROGRID)
CELLS)

Group Art Unit: 2128

Examiner: David Silver

Confirmation No.: 5168

SECOND INFORMATION DISCLOSURE STATEMENT

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Sir:

In accordance with the duty of disclosure as set forth in 37 C.F.R. § 1.56, the accompanying information is being submitted in accordance with 37 C.F.R. §§ 1.97 and 1.98.

Pursuant to 37 C.F.R. § 1.98, a copy of each of the documents cited is enclosed.

The documents are being submitted after a first Office Action on the merits but prior to the closing of prosecution, therefore under 37 C.F.R. § 1.97(c), the fee set forth in 37 C.F.R. § 1.17(p) is enclosed.

A fee of \$ 180 as set forth in 37 C.F.R. § 1.17(p) is enclosed.

03/29/2007 MBELETE1 00000032 10782634

01 FC:1806

180.00 0P

To assist the Examiner, the documents are listed on the attached form PTO-1449. It is respectfully requested that an Examiner initialed copy of this form be returned to the undersigned.

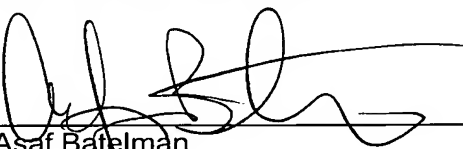
The Director is hereby authorized to charge any appropriate fees under 37 C.F.R. § 1.16, 1.17 and 1.21 that may be required by this paper, and to credit any overpayment, to Deposit Account No.02-4800. This paper is submitted in duplicate.

Respectfully submitted,

BUCHANAN INGERSOLL & ROONEY PC

Date: March 29, 2007

By:


Asaf Batelman
Registration No. 52600

P.O. Box 1404
Alexandria, VA 22313-1404
703 836 6620

**SECOND
INFORMATION DISCLOSURE
STATEMENT BY APPLICANT**

(use as many sheets as necessary)

Sheet 1 of 1

Application Number	10/782,634
Filing Date	February 18, 2004
First Named Inventor	Christopher J. Freitas et al.
Examiner Name	David Silver
Attorney Docket No.	T-6264

MAR 29 2007

U.S. PATENT DOCUMENTS

Examiner Initials	Document Number	Kind Code (if known)	Name of Patentee or Applicant of Cited Document	Issue/Publication Date (MM-DD-YYYY)

FOREIGN PATENT DOCUMENTS

Examiner Initials	Document Number	Kind Code (if known)	Country	Date of Publication (MM-DD-YYYY)	STATUS						
					Translation	Partial Translation	Eng. Lang. Summary	Search Report	IPER	Abstract	Cited in Spec

NON-PATENT LITERATURE DOCUMENTS

Examiner Initials	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.
	Ashgriz, N. and Poo, J. Y., 1991, FLAIR: Flux line-segment model for advection and interface reconstruction. Journal of Computational Physics, Vol. 93, p. 449-468.
	Daly, B. J., 1969, A technique for including surface tension effects in hydrodynamic calculations. Journal of Computational Physics, Vol. 4, p. 97-117.
	Freitas, C. J., 1986, Nonlinear transient phenomena in a three-dimensional cavity flow: A numerical investigation. PhD dissertation, Stanford University. With Abstract
	Freitas, C.J., 1988, Non-linear transient phenomena in a complex recirculating flow: a numerical investigation. International Journal for Numerical Methods in Fluids, Vol. 8, p.769-802.
	Harlow, F. H. and Welch, J. E., 1965, Numerical calculation of time-dependent viscous incompressible flow of fluid with free surface. Physics of Fluids, Vol. 8(12), p. 2182-2189.
	LaFaurie, B., Nardone, C., Scardovelli, R., Zaleski, S., and Zanetti, G., 1994, Modeling merging and fragmentation in multiphase flows with SURFER. Journal of Computational Physics, Vol. 113, p. 134-147.
	Nichols, B. D. and Hirt, C. W., 1973, Calculating three-dimensional free surface flows in the vicinity of submerged and exposed structures. Journal of Computational Physics, Vol.12, p. 234-246.
	Noh, W. F. and Woodward, P., 1976, SLIC (Simple Line Interface Calculations). Lecture Notes in Physics, Vol. 59, p. 330-340.
	Osher, S. and Sethian, J. A., 1988, Fronts propagating with curvature-dependant speed: algorithms based on Hamilton-Jacobi formulations. Journal of Computational Physics, Vol. 79, p.12-49.
	Rhee, H. S., Koseff, J. R., and Street, R. L., 1984, Flow visualization of a recirculating flow by rheoscopic liquid and liquid crystal technique. Experiments in Fluids, p. 57-64.
	Sethian, J. A., 1996, Level set methods: Evolving interfaces in geometry, fluid mechanics, computer vision and materials sciences. Cambridge University Press.
	Sussman, M., Smereka, P. and Osher, S., 1994, A level set approach for computing solutions to incompressible two-phase flow. Journal of Computational Physics, Vol. 114, p.146-159.
	Takizawa, A., Koshizuka, S., and Kondo, S., 1992, Generalization of physical component boundary fitted coordinate (PCBFC) method for the analysis of free-surface flow. International Journal of Numerical Methods in Fluids, Vol. 15, p. 1213-1237.
	Tomiyama, A., Nakahara, Y., and Abe, S., 2002, An interface tracking method based on volume tracking in embedded micro cells. Proceedings of ASME FEDSM'02, AMSE 2002 Fluids Engineering Division Summer Meeting, Montreal, Quebec, Canada, FEDSM2002-31147, p. 1-6.
	Youngs, D. L., 1982, Time-dependent multi-material flow with large fluid distortion. (in) Morton, K. W. and Baines, M. J. (eds) Numerical Methods for fluid dynamics. London: Academic Press. p. 273-285.

Examiner Signature

Date Considered

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with M.P.E.P. § 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to Applicant.